REMARKS

Reconsideration of the above-identified application in view of the following remarks is respectfully requested.

Claim Status

Claims 1, 5, 7-36, 42-71, 75, and 77-106 are pending in this application. Claims 1, 5, 10-21, 26-31, 33-36, 40,45-56, 61-66, 68-71, 75, 80-91, 96-101, and 103-105 are withdrawn from consideration as a result of a Restriction Requirement and subsequent election by Applicants. Claims 7-9, 22-25, 32, 42-44, 57-60, 67, 77-79, 92-95, 102, and 106 are currently being considered, of which claims 32, 67, 102, and 106 are independent in form. Claims 7-9, 22-25, 32, 42-44, 57-60, 67, 77-79, 92-95, 102, and 106 are rejected. Reconsideration of the above-identified application in view of the following remarks is respectfully requested.

Information Disclosure Statement

1.   The Examiner requested additional documentation describing the prior art system discussed in the background of the invention section of the disclosure. Applicants submit herewith an Information Disclosure Statement and corresponding Form PTO-1449 disclosing six references. Applicants note that JP Nos. 2000-115464, 2000-115465, and 2000-101793 correspond to U.S. Patent No. 6,832,008; and JP No. 2000-349976 corresponds to U.S. Patent No. 6,633,415. The prior art system discussed in the background of the invention section of the disclosure corresponds to the third embodiment of Japanese Publication No. 2000-349976 and corresponding U.S. Patent No. 6,832,008. The Examiner is respectfully requested to fully consider these references and return an initialed copy of the Form PTO-1449 to the Applicants.

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Claim Rejections – 35 U.S.C. § 103

2.   Claims 7, 32, 42, 57, 67, 77, 102 and 106 are rejected under 35 U.S.C. § 103(a) as

allegedly being unpatentable over the combination of Edgar, U.S. Patent No. 5,266,805

("Edgar"), Florent, U.S. Patent No. 5,832,111 ("Florent"), and Maeda et al., U.S. Publication No.

20030128889 ("Maeda"). Claims 8-9, 22-25, 43-44, 57-60, 78-79 and 92-95 are rejected under

35 U.S.C. § 103(a) as allegedly being unpatentable over the combination of Edgar and Florent as

applied to claims 7, 42 and 77, and further in view of Nichani et al., U.S. Patent No. 5,949,905

("Nichani"). Applicants respectfully disagree with the characterization of the claims and prior

art in the stated rejection and respectfully traverse this rejection.

Regarding independent claim 102, which the Examiner characterizes as

representative of independent claims 32 and 67, the Examiner contends that Edgar discloses: a

visible light source, an infrared light source, and a photoelectric converter; a means for

comparing a threshold value with infrared image signal components and extracting infrared

image signal components not more than the threshold value; and a means for comparing a

threshold value with infrared image signal components and extracting infrared image signal

components not more than the threshold value, at col. 7, lines 10-28, col. 12, lines 26-30, and

col. 12, lines 30-35, respectively. June 17, 2005 Office Action at 4. The Examiner further

contends that Edgar, at col. 12, lines 30-35, discloses a means for executing an interpolation

process of a visible light image signal on the basis of the infrared image signal components not

more than the threshold value. June 17, 2005 Office Action at 4.

The Examiner asserts that it would have been obvious to one reasonably skilled in

the art at the time of the invention to modify Edgar's image reading apparatus by calculating a

threshold value on the basis of a generated histogram as taught by Florent. June 17, 2005 Office

Action at page 4. Applicants respectfully disagree with the teachings attributed to Edgar, and

moreover, even assuming those teachings, one of ordinary skill in the art would not be motivated

to combine the teachings of Edgar and Florent as suggested by the Examiner.

Applicants respectfully disagree and submit that at col. 12, lines 30-35, Edgar

merely discloses that pixel values in an infrared record 122 are tested, and if they are below a

threshold value, an interpolation or fill-in routine 126 is used to adjust red, green and blue pixel

values in accordance with corresponding values of adjacent pixels. In this section, Edgar does

not teach or suggest segmenting an image signal into a plurality of blocks, generating histogram

data for each block, or using the histogram data to calculate a threshold value for each block.

Further, regarding the threshold value, Edgar teaches:

> This threshold valve [*sic*] is selected based on the noise and
> accuracy of the actual hardware to limit subsequent
> compensating gain below the point where system noise
> predominates.

Edgar, col. 8, lines 60-63.

That is, Edgar discloses a single threshold value that is selected based on fidelity

and noise parameters of the hardware equipment that is used to capture an image. However,

Edgar fails to teach or suggest segmenting an image signal into a plurality of blocks, generating

histogram data for each block, or using the histogram data to calculate a threshold value for each

block.

Thus, Edgar does not teach as the Examiner contends. Based on this incorrect

attribution to Edgar, the Examiner justifies the combination of Edgar and Florent, using the

following teachings of Florent:

> Thus, the topological distribution of the pixels by their grey
> levels is taken into account, which renders it possible to solve

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>   the problems relating to the uncertainty about the choice of a
>   threshold that is most suitable for segmentation.

Florent at col. 3, lines 40-43.

However, Florent's invention is directed to binary segmentation. Florent

discloses:

>   Binary segmentation means to classify the pixels of a digital image
>   on the basis of their grey level as belonging to a background or to a
>   target. A pixel is classified, for example, as belonging to the target
>   if its grey level is equal to or exceeds a threshold; otherwise it is
>   classified as belonging to the background.

Florent at col. 1, lines 20-25. Thus, Florent does not teach or suggest segmentation of an image

signal into a plurality of blocks and then calculating a threshold value for each block.

Moreover, Florent teaches only two applications related to the disclosed method

of processing of infrared images, which are for identifying moving targets and for monitoring

road traffic. *See* Florent at col. 1, lines 14-18. That is, Florent does not teach or suggest using

the disclosed histogram method of calculating a threshold value in a system such as Edgar's.

Thus, there is no motivation to combine the disparate teachings of Edgar and Florent. Further,

assuming *arguendo* that there is motivation to combine the teachings of Edgar and Florent,

which there is not, the combination does not result in Applicant's claimed subject matter.

The Examiner further asserts that it would have been obvious to one reasonably

skilled in the art at the time of the invention to modify Edgar's and Florent's image reading

apparatus by segmenting the infrared image into a plurality of blocks as taught by Maeda. June

17, 2005 Office Action at page 4. Applicants respectfully disagree that one of ordinary skill in

the art would be motivated to combine the teachings of Edgar, Florent, and Maeda as suggested

by the Examiner.

The Examiner justifies the combination of Maeda with Edgar and Florent using

the following teachings of Maeda:

> Upon completion of reception of the main-scan image data
> from the scanner 2, the host computer 1 makes an
> affirmative decision (YES) in step S17, and selects one
> pixel block (m-th block) from a plurality of blocks each
> comprising a predetermined number of pixels, and obtained
> by breaking up all the pixels of the IR data in step S18. The
> host computer 1 checks in step S19 if the selected m-th
> block in the IR data includes a pixel with luminance lower
> than a first IR luminance level. That is, the host computer 1
> checks in step S19 whether or not the selected m-th block
> includes a defect. The first IR luminance level corresponds
> to a transmission level obtained when the film original 26 is
> free from any defects. In case of a positive film, the first IR
> luminance level is obtained by multiplying IRmax detected
> in step S7 by the magnification factor for IR obtained in
> step S8. On the other hand, in case of a negative film, the
> first IR luminance level is obtained by multiplying IRmax
> detected in step S13 by the magnification factor for IR
> calculated in step S14.

Maeda at paragraph 119.

In the cited section, Maeda merely discloses an algorithm in which a plurality of

pixels, which comprise a pixel block, are processed by a computer to determine if each pixel

block has one or more pixel values that are lower than a single threshold value, which is referred

to as the first IR luminance level. However, Maeda fails to disclose that a different threshold

value is calculated for each pixel block. Further, Maeda fails to disclose that histogram values

for each pixel block are calculated to determine a different threshold value for each pixel block.

Moreover, Florent does not teach or suggest using the disclosed histogram method

of calculating a threshold value in a system such as Maeda's. As previously stated, Florent only

teaches two applications related to processing of infrared images, which are for identifying

moving targets and for monitoring road traffic. *See* Florent at col. 1, lines 14-18. Thus, there is

no motivation to combine the teachings of Florent and Maeda.

Applicants respectfully assert that the combination of Edgar, Florent, and Maeda is based on hindsight reconstruction of Applicants' claimed invention, which is impermissible. The Examiner has failed to provide an explanation why one of ordinary skill in the art at the time the invention was made would have been motivated to make the proposed modifications, as required by MPEP § 706.02(j). Therefore, for at least the foregoing reasons, the combination of Edgar, Florent, and Maeda is improper and should not be used as a valid basis for rejection.

Regarding independent claim 106, the Examiner states that Edgar discloses a computer program product comprising a computer usable medium having computer readable code. However, based on arguments similar to those presented above regarding claim 102, Edgar, alone or in combination with Florent or Maeda, fails to disclose the computer program product recited in claim 106.

Applicants respectfully submit that the present invention as claimed is neither taught nor suggested by, and therefore neither anticipated by nor rendered obvious in view of, Edgar, Florent, Maeda, Nichani, or other prior art of record, taken individually or in combination. Accordingly, Applicants respectfully request withdrawal of the rejection applied to claims 1, 5, 7-36, 42-71, 75, and 77-106 under 35 U.S.C. § 103(a).

Dependent Claims

Applicants have not independently addressed the rejections of the dependent claims. Applicants submit that, in view of the amendments to the claims presented herein and, for at least similar reasons as to why the independent claims from which the dependent claims depend are believed allowable as discussed supra, the dependent claims are also allowable.

Applicants however, reserve the right to address any individual rejections of the dependent claims should such be necessary or appropriate.

CONCLUSION

For the above-stated reasons, this application is respectfully asserted to be in condition for allowance. An early and favorable examination on the merits is requested. In the event that a telephone conference would facilitate the examination of this application in any way, the Examiner is invited to contact the undersigned at the number provided.
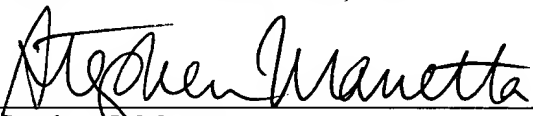
AUTHORIZATION

The Commissioner is hereby authorized to charge any additional fees which may be required for consideration of this Request to Deposit Account No. 13-4500, Order No. 1232-4724.

In the event that an extension of time is required, or which may be required in addition to that requested in a petition for an extension of time, the Commissioner is requested to grant a petition for that extension of time which is required to make this response timely and is hereby authorized to charge any fee for such an extension of time or credit any overpayment for an extension of time to Deposit Account No. 13-4500, Order No. 1232-4724.

Respectfully submitted,
MORGAN & FINNEGAN, L.L.P.

Dated: <u>October 17, 2005</u>   By: _____

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